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TECHNICAL IMPLEMENTATION NOTICE 07-95
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC
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TO: FAMILY OF SERVICES /FOS/ SUBSCRIBERS
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FROM: RICHARD J. VOGT
DIRECTOR...WSR-88D RADAR OPERATIONS CENTER

SUBJECT: IMPLEMENTATION OF CHANGES TO WSR-88D LEVEL II DATA STREAM AND
FORMAT: EFFECTIVE WITH WSR-88D BUILD 10 /FEBRUARY 2008 BETA TEST/

REFERENCE PUBLIC INFORMATION STATEMENT SENT MARCH 2 2007 /USE LOWER CASE/:

[HTTPS://WWW.WEATHER.GOV/MEDIA/NOTIFICATION/PDFS/PNS07WSR-88D LEVEL II MODFCTN.PDF](https://www.weather.gov/media/notification/pdfs/pns07wsr-88d_level_ii_modfctn.pdf)

THE WSR-88D LEVEL II DATA STREAM CONTENT AND FORMAT WILL CHANGE WHEN WSR-88D SITES INSTALL BUILD 10 SOFTWARE: BEGINNING WITH WSR-88D BUILD 10 BETA TEST /STARTS IN LATE FEBRUARY 2008/.

THE NWS...UNITED STATES AIR FORCE /USAF/ AND FEDERAL AVIATION ADMINISTRATION /FAA/ WSR-88D SYSTEMS PRODUCE LEVEL II DATA...THE HIGHEST RESOLUTION DIGITAL RADAR DATA AVAILABLE. THESE DATA CONTAIN REFLECTIVITY...RADIAL VELOCITY AND SPECTRUM WIDTH DATA FROM ALL RADAR SCANS. LEVEL II DATA ARE COLLECTED... DISTRIBUTED AND ARCHIVED IN REAL TIME FROM 135 WSR-88D SYSTEMS VIA THE NWS WSR-88D LEVEL II DATA COLLECTION AND DISTRIBUTION NETWORK.

PLANNED CHANGES:

THE LEVEL II DATA FORMAT AT ALL BUT ONE SITE AND THE CONTENT OF THE LEVEL II DATA STREAM AT SELECT SITES WILL CHANGE BEGINNING IN WSR-88D SOFTWARE BUILD 10. BETA TEST AT APPROXIMATELY FIVE SITES BEGINS IN LATE FEBRUARY 2008 AND DEPLOYMENT TO ALL OPERATIONAL SITES BEGINS IN EARLY MAY 2008.

1. THE FORMAT OF THE DATA WILL CHANGE FROM MSG1 TO MSG31 AS SITES INSTALL BUILD 10 SOFTWARE...EXCEPT FOR THE KVWX /EVANSVILLE INDIANA/ RADAR SITE WHICH WILL CONTINUE TO USE MSG1 INDEFINITELY. USER LEVEL II SOFTWARE WILL NEED TO BE ABLE TO RECEIVE AND DECODE MSG1 AND MSG31 FORMAT DATA DURING THE BUILD 10 BETA TEST DEPLOYMENT PERIOD AND BEYOND. THE CHANGE TO MSG31 IS REQUIRED TO HANDLE THE PLANNED ADDITIONS TO THE WSR-88D LEVEL II DATA STREAM: SUPER RESOLUTION DATA... BUILD 10 AND DUAL POLARIZATION DATA...BEGINNING IN 2010. NWS WILL NOT CHANGE THE LOCAL DATA MANAGER /LDM/ METHOD OF DISTRIBUTING LEVEL II DATA VIA THE NWS WSR-88D LEVEL II DATA COLLECTION AND DISTRIBUTION NETWORK.

2. THE DATA STREAM WILL INCREASE IN SIZE DUE TO THE PLANNED CHANGE TO SUPER RESOLUTION RADAR DATA IN BUILD 10. SUPER RESOLUTION DATA INCREASE THE AZIMUTH RESOLUTION FROM ONE DEGREE TO 0.5 DEGREE...THE REFLECTIVITY DATA RANGE RESOLUTION FROM ONE KM TO 0.25 KM AND DOPPLER DATA RANGE FROM 230 KM TO 300 KM FOR SPLIT CUTS...GENERALLY SCANS AT 1.5 DEGREES OR LOWER ELEVATION. THE AMOUNT OF DATA COLLECTED AND TRANSMITTED DURING A VOLUME SCAN WILL INCREASE BY A FACTOR OF APPROXIMATELY 2.3.

CURRENT PLANS ARE THAT NETWORK-WIDE TRANSMISSION OF SUPER RESOLUTION DATA WILL NOT BEGIN IMMEDIATELY AT ALL SITES AS BUILD 10 IS DEPLOYED. IT IS POSSIBLE THAT SOME OF THE BETA TEST SITES WILL BE ABLE TO TRANSMIT SUPER RESOLUTION DATA DURING THE BETA TEST. USER LEVEL II SOFTWARE WILL NEED TO BE ABLE TO RECEIVE AND DECODE SUPER RESOLUTION AND LEGACY RESOLUTION DATA DURING THE BUILD 10 BETA TEST...DEPLOYMENT PERIOD AND BEYOND. IN SOME CASES...THE LEVEL II DATA ARE NOT TRANSMITTED AS SUPER RESOLUTION...THE DATA WILL BE RECOMBINED...AT THE RADAR PRODUCT GENERATOR /RPG/...BACK TO THE LEGACY DATA RESOLUTION. TIMING OF NETWORK-WIDE TRANSMISSION OF SUPER RESOLUTION DATA WILL BE ANNOUNCED LATER.

THE FOLLOWING TOOLS ARE AVAILABLE TO LEVEL II USERS TO ASSIST THEIR TRANSITION TO THE NEW DATA FORMAT AND CONTENT. INFORMATION ON HOW TO ACCESS THE TOOLS AND OTHER RELATED INFORMATION ARE POSTED AND PERIODICALLY UPDATED ON THE LEVEL II WEBSITE AT /USE LOWER CASE/:

[HTTP://WWW.ROC.NOAA.GOV/NWS LEVEL 2](http://www.roc.noaa.gov/nws_level_2)

1. DRAFT INTERFACE CONTROL DOCUMENTS DESCRIBING THE NEW DATA FORMAT AND DATA STREAM ARE AVAILABLE AT /USE LOWER CASE/:

[HTTP://WWW.ROC.NOAA.GOV/NWS LEVEL 2/BUILDINFO/BUILD10ICDS.ASPX](http://www.roc.noaa.gov/nws_level_2/buildinfo/build10icds.aspx)

2. SAMPLE ARCHIVE DATA SETS USING THE NEW FORMAT AND DATA STREAM ARE AVAILABLE AT /USE LOWER CASE/:

[HTTP://WWW.NCDC.NOAA.GOV/NEXRADINV/CHOOSEDAY.JSP?ID=NOP3](http://www.ncdc.noaa.gov/nexradinv/chooseday.jsp?id=nop3)

3. SAMPLE REAL-TIME DATA STREAMS USING THE NEW FORMAT AND DATA STREAM ARE AVAILABLE AS /NOP3/ ON THE NWS LEVEL II DATA COLLECTION AND DISTRIBUTION NETWORK AS PER THE SCHEDULE /BUILD 10 LDM SCHEDULE/ AT /USE LOWER CASE/:

[HTTP://WWW.ROC.NOAA.GOV/NWS LEVEL 2/BUILDINFO/B10MAIN.ASPX](http://www.roc.noaa.gov/nws_level_2/buildinfo/b10main.aspx)

4. AN EARLY VERSION OF BUILD 10 SOFTWARE...EXECUTABLE AND SOURCE CODE...IS AVAILABLE FROM THE NWS COMMON OPERATIONS AND DEVELOPMENT ENVIRONMENT CODE WEBSITE /USE LOWER CASE/:

[HTTP://WWW.WEATHER.GOV/CODE88D](http://www.weather.gov/code88d)

THE SOFTWARE CONTAINS CODE TO READ SUPER RESOLUTION DATA AND TO RECOMBINE THE SUPER RESOLUTION DATA INTO LEGACY RESOLUTION DATA. THE RPG LEGACY ALGORITHMS AND PRODUCTS WILL USE RECOMBINED DATA.

NWS IS PLANNING A CONFERENCE CALL STARTING AT 11 AM /EASTERN TIME/ ON
DECEMBER 5 2007 TO PROVIDE USERS ANOTHER OPPORTUNITY TO ASK QUESTIONS ON
THESE PLANS TO CHANGE THE DATA FORMAT AND CONTENT ALONG WITH THE TOOLS
AVAILABLE. THE CONFERENCE CALL CONTACT INFORMATION WILL BE POSTED IN THE
NEWS SECTION AT /USE LOWER CASE/:

[HTTP://WWW.ROC.NOAA.GOV/NWS_LEVEL_2/BUILDINFO/B10MAIN.ASPX](http://www.roc.noaa.gov/NWS_LEVEL_2/BUILDINFO/B10MAIN.ASPX)

PLEASE SEND ANY COMMENTS OR QUESTIONS ON THE BUILD 10 CHANGES TO:

TIM CRUM
WSR-88D RADAR OPERATIONS CENTER
NORMAN OKLAHOMA
TIM.D.CRUM@NOAA.GOV

NATIONAL TECHNICAL IMPLEMENTATION NOTICES ARE ONLINE AT /USE LOWER CASE/:

[HTTPS://WWW.WEATHER.GOV/NOTIFICATION/ARCHIVE](https://www.weather.gov/NOTIFICATION/ARCHIVE)

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